

December 4, 1954

Dr. Howard B. Newcombe
Atomic Energy of Canada
Chalk River, Ont.

Dear Howard:


Thank you for your note. There was, of course, no question whatever on the propriety of your sending the coli cultures to Hinshelwood. But I don't share your optimism on the outcome: he is too deeply committed, though I have been encouraged by his complaint, in Nature, that I had misconstrued his stand on the role of spontaneous mutations. What I expect will happen is that he will find some means of testing the progeny of crosses so as to exaggerate the inevitably accumulated modifiers.

I have been doing a few experiments myself, with his *Aerobacter* strain, on adaptation to D-arabinose. The system could hardly be messier, but I cannot agree with his first contention, that during adaptation the cell population remains homogeneous; instead, plating on Darabinose agar from cultures adapting in liquid medium show a wide dispersion in rates of colony development. The system seems almost certainly a polygenic affair, with a sequence of several discrete steps.

When we paid our (most enjoyable) visit to you at Chalk River a couple of summers ago, you had just started working on actinomycetes as genetic material, and I have been interested to follow your papers on the matter since. You may recall our conversation, that I had been dabbling with them also, but had gotten little further than making a few auxotrophs. I have been too preoccupied to deal with them since to any extent, but this year, you may be interested to know, a fellow named S. G. Bradley has come up on a post-doctoral to follow up on the problem. The objective is simply a genetic test for recombination (sex; transduction, or whatnot) along the lines of our previous work with other bacteria. So far, nothing exciting whatsoever. There is again some suggestion of the formation of heterokaryons which, however, segregate completely in sporogenesis. This has to be confirmed by hyphal isolations which have not yet been done. I hope and believe that our interests will conflict in no way with your own.

With best regards, especially to Lillian,

Yours sincerely,


Joshua Lederberg